

FROM FABRIC TO FASHION: HOW PHYSICAL PRODUCT ATTRIBUTES AND ATTITUDE INFLUENCE GREEN APPAREL BUYING BEHAVIOR

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Abstract

The apparel industry has been a significant area of concern for the environment; hence prioritizes producing and selling of green apparel. The apparel industry accounts for 10% of global carbon emissions and 20% of global water waste. The current study investigated the relationship between attitude and physical product attributes on green apparel buying behavior. Data was collected using a structured questionnaire from the female respondents at different malls and supermarkets. A total of 500 female respondents participated in the survey. A structural equation modeling approach is used for data analysis using Smart PLS. The study found a significant relationship between attitude and physical product attributes on green apparel buying behavior. Marketers can utilize individual concerns to promote the additional utility of green apparel, increasing the value for the consumer.

1. Introduction

Green products are increasingly being produced and marketed globally due to growing environmental concerns. The environmental impact of apparel has led to a focus on producing and selling eco-friendly products (Chuah et al., 2020; Khare & Kautish, 2022). Green apparel refers to clothes made using green practices, eco-friendly fibers, and support fair trade practices (Henninger et al., 2016; Khare & Kautish, 2022). According to (Gardetti, 2015) traditional fabrics like polyester, spandex, nylon, and rayons are not biodegradable. Furthermore, these fabrics are manufactured and processed with chemicals such as petroleum and formaldehyde, which affect the environment. The fashion or apparel industry has a significant impact on the environment. The industry worth 2.5 trillion dollars, being world's second-largest water user, responsible for 20% of worldwide waste. Meanwhile the apparel industry accounts approximately 10% of total global carbon emissions, it has also led to the degradation of arable land. Cotton farming accounts for 24% of insecticides and 11% of pesticides despite using only 3% of the world's arable land (UNECE, 2018). A report by (Mandarić et al., 2022) stated that the fashion industry is a major polluter and contributes to social and ecological issues.

To achieve the UN-SDG goals of sustainable consumption and production, it is important to avoid harmful chemicals and toxins in manufacturing and instead use eco-friendly alternatives. Consumer interest, motivation, and purchase behavior have put green apparel on fast growth in the retail fashion sector (Wren, 2022). Green fashion now accounts for 10% of overall fashion industry, due to increased consumer awareness and positive consumer attitude towards apparel sustainability. According to (Hassan et al., 2022) personal norms, attitude, physical product attributes significantly impact sustainable fashion consumption. The study also link green consumption attitude with philanthropic and economic reasons for apparel disposal behavior. The factors involves the consideration of green apparel are cost, risk, and value barriers (Dhir et al., 2021). The current study focuses on the Indian youth female consumers. Their response towards green apparel buying behavior has been examined. Also, the study clarifies the relationship between physical product attributes and attitude on green apparel buying behavior. This paper provides practical implications for policymakers and retailers to formulate marketing strategies for green apparel.

2. Literature Review

Previous research in India has used behavioral theories such as personality theory, TBP, TRA, and environmental concerns to analyze consumer attitudes towards green apparel (Kautish et al., 2019; Khare & Kautish, 2022). According to (Chaudhary and Bisai, 2018), environmental concern influences attitude, social norms, and perceptions of behavioral control. (Thakur & Gupta, 2012) found the factors like motives, concern for the environment, income, and incentives are important predictors of eco-friendly attitude.

Green consumption studies investigate the factors that influence the purchase and consumption of green products. (Joshi & Rahman, 2015) found that consumer's sentiments regarding environmental concerns and the depletion of natural resources influence their decision to purchase green items. Green apparel helps in reducing the fashion industry's carbon emissions, which account for 10% of world emissions (UNECE, 2018). (N. Kumar & Mohan, 2021) trying to understand an individual's purchasing behavior towards green products, discovered that a positive attitude leads to a positive intention towards green behavior.

2.1 Attitude towards green apparel and green apparel buying behavior

A consumer's attitude towards a product refers to their feelings surrounding its purchase or consumption. According to (B. Kumar et al., 2017), attitudes can alter depending on the situation and impact purchasing decisions. According to (Nguyen et al., 2019), through these concepts, the pretext of green attire and ecological protest also initiates to have an optimistic and strong link with the purchase intentions of green apparel. (Chin et al., 2020) claimed that young female consumers eco-friendly attitude has a positive influence on green buying intentions. However, (Jacobs et al., 2018) claimed that a positive mindset towards a product does not necessarily lead

to purchase, and it is not also necessary that consumers with a positive attitude and environment knowledge will always buy the product.

(Lee, 2008) discovered that fair-trade product consumption is influenced by factors such as prior experience, style, new trends, perceived attributes, and advantages predicted the influence on green purchase behavior. (Mehmood & Masood, 2016) revealed that recycled products and plastics concerns has a direct effect on consumer attitude towards the product and its perceived value, therefore impacting their buying behavior. The previous research show that consumers are more likely to acquire green products when they have positive attitude and perceived value.

Ha1: Attitude have a significant impact on green apparel buying behavior.

2.2 Physical Product Attributes and Green Apparel Buying Behavior

Physical product attributes play an important role in shaping consumer perceptions and purchase intentions in green apparel. Attributes such as style and design are essential to communicate the sustainability of a product and enhance its perceived value (Sharma & Foropon, 2019). By focusing on these attributes, green apparel brands can better align their products with consumer expectations and overcome barriers to adoption. (Mandarić et al., 2022) highlighted older consumers value durability and material quality, younger consumers are more influenced by the style and innovative features of green apparel.

Previous studies also highlight that physical product attributes play a significant role in shaping consumer perceptions and behaviors when it comes to green apparel buying. The relationship between both has been widely explored in the literature (Lin & Chen, 2022). The studies found that physical product attributes has a significant positive relationship green apparel buying behavior (Balasubramanian & Sheykhmaleki, 2024). Consumers buy green apparel having unique design and style as compared to the conventional apparel.

Ha2: Physical Product Attributes have a significant impact on green apparel buying behavior.

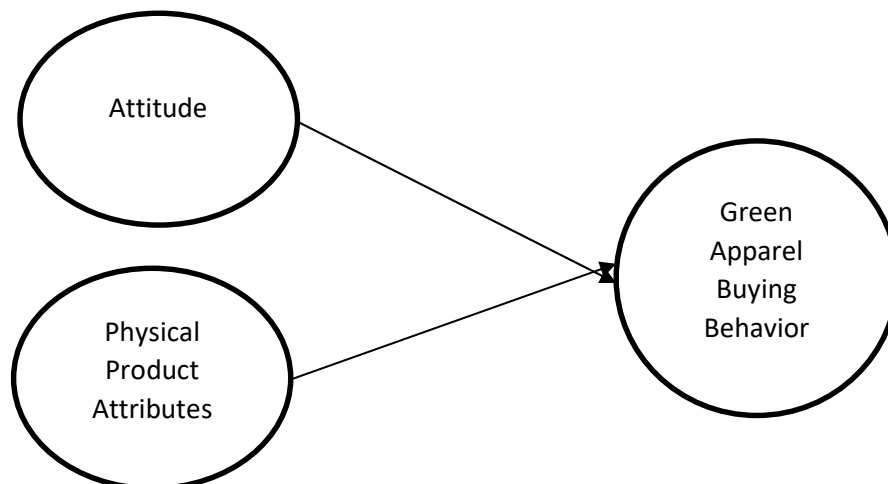


Figure 1: Conceptual Framework

3. Methodology

3.1 Sample

For the research, a mall intercept survey technique was used (Bush & Hair, 1985). A mall intercept method is considered reliable as respondents experience anonymity (Hornik & Ellis, 1988). For data collection, a sample from Tier-II cities of Uttar Pradesh was taken. These cities were selected on the basis of different geographical locations and would provide diversified population for sampling. The cities were Meerut, Ghaziabad, Kanpur, Lucknow, Agra and Aligarh, and data was collected over eight months from January-August 2024. The respondents were randomly approached in various shopping malls during different time slots in the week to reduce biasness (Bush & Hair, 1985). The respondents were informed of the purpose of research and assured that personal information would not be misused. Around 800 customers were approached to fill the questionnaire but many refused to participate because of lack of time, and lack of interest. The total of 550 responses were received. In total, 500 completed questionnaire were used for final analysis, as 100 questionnaire were incomplete. The demographic details of respondents are shown in Table no. 1 below.

3.2 Instrument Measures

The research scales used to understand consumer's behavior towards green apparel were adapted from earlier studies with high reliabilities and a five-point Likert scale with 1 = strongly disagree and 5 = strongly agree. The questionnaire included questions about demographic profile of the respondents, followed by items to measure green apparel buying behavior. The survey included a scale to measure physical product attributes scale adapted from (T.M. Rausch et al., 2021; Hasan et al., 2022), attitude scale adapted from (L. Li, Z. Wang, Y. Li et al, 2021; Adnan et al., 2018), and green apparel buying behavior scale adopted from (A. Khare and P. Kautish, 2021; Dhir et al., 2021; Khare & Sadachar, 2017) all were adapted for the research. The physical product attributes scale contained 6 items. Attitude scale has 6 items, and green apparel buying behavior scale has 6 items. These scales have been extensively used in various studies.

Data was analyzed using Smart PLS 4. As all the scales were taken from the previous studies, it was necessary to pretest these scales to ensure the desired reliability of the constructs. The face validity of the measurement items evaluate the extent to which the scale items adequately measures the underlying construct. Quantitative analysis included exploratory and confirmatory factor analysis to understand the applicability of the scales. To examines the relationship between physical product attributes and attitude on green apparel buying behavior, a structural equation model was proposed.

3.3 Assessment of Constructs

To assess the model, we evaluated outer loadings, CR (composite reliability), AVE (average variance extracted), and discriminant validity (Sarstedt et al., 2019). As shown below in Table no. 2, the outer loadings of the construct are above 0.7, and the composite reliability and Cronbach alpha values are more than 0.7, showing a high degree of internal consistency. The AVE value is greater than 0.5 hence approving the convergent validity of the constructs (Hair et al., 2019). The VIF values are < 5 , indicating no collinearity issues in the constructs.

Table 2: Construct Validity

Construct	Item	Outer Loading	VIF	AVE	CR	Cronbach's Alpha
Attitude	A1	0.765	1.332	0.892	0.987	0.976
	A2	0.746	1.587			
	A3	0.863	1.375			
	A4	0.802	1.345			
	A5	0.764	1.316			
	A6	0.744	1.356			
Green Apparel Buying Behavior	GABB1	0.722	1.446	0.832	0.817	0.764
	GABB2	0.832	1.567			
	GABB3	0.767	1.408			
	GABB4	0.737	1.367			
	GABB5	0.755	1.347			
	GABB6	0.742	1.325			
Physical Product Attributes	PPA1	0.756	1.381	0.798	0.931	0.876
	PPA2	0.783	1.436			
	PPA3	0.827	1.286			
	PPA4	0.736	1.339			
	PPA5	0.877	1.365			
	PPA6	0.728	1.290			

In order to determine the discriminant validity, as shown in Table no. 3, HTMT (Heterotrait-Monotrait ratio), criteria was adopted with a conventional threshold of 0.9 to determine the measurement model (Henseler et al., 2015). The results have established convergent and discriminant validity.

Table 3: Discriminant Validity

	Attitude	GABB	PPA
Attitude			
GABB	0.757		
PPA	0.658	0.631	

4. Results

After the testing of proposed models' reliability and validity were established, we conducted bootstrapping with 5000 subsamples to analyze the hypothesis. Further, the model accuracy and predictive relevance were evaluated with the help of R^2 , Q^2 , as shown in Table no. 4. The value of R^2 is > 0.50 , hence the predictive accuracy of the model can be taken as moderated to high (Hair et al., 2019). The Q^2 values show that the predictive relevance of the model is high (Khan et al., 2019).

Table 4: R^2 and Q^2 of the model

	R-square	R-square adjusted	Q^2
GABB	0.582	0.590	0.289

As per Table 5, Attitude $\rightarrow$ GABB ($t = 9.243$, $p = 0.000$) and PPA $\rightarrow$ GABB ($t = 5.386$, $p = 0.000$) which is showing significant values supporting the hypothesis Ha1 and Ha2. The attitude and physical product attributes showing the positive relationship with green apparel buying behavior. On the basis of mean value, attitude is having more significant and positive relationship with green apparel buying behavior.

Table 5: Path Coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ($ O/STDEV $)	P values
Attitude $\rightarrow$ GABB	0.461	0.462	0.05	9.243	0.000
PPA $\rightarrow$ GABB	0.26	0.265	0.048	5.386	0.000

5. Findings

The study found that the relationship between attitude and physical product attributes on green apparel buying behavior has shown significant values supporting the hypothesis; these findings are consistent with the previous studies. The result also indicated that a green consumption attitude influences consumer buying behavior of green apparel. The attitude has a more impact on green apparel buying behavior than physical product attributes. Similarly, physical product attributes is also having significant impact on green apparel buying behavior but its impact is less than attitude. It means the buying behavior of youth female consumers does not totally depend on the attributes like style or design but it also depends on the favorable tendency of consumers towards green apparel. therefore, attitude is a significant psychological determinant in shaping the consumer's decisions to purchase green apparel.

6. Conclusion and implications

The study findings contribute to the body of knowledge in green marketing, especially in the green apparel industry. Considering there are few empirical research in the field of green apparel consumption in the Indian context, the study contributed by emphasizing the role of individual concerns on green consumption attitude and buying behavior for green apparel. consideration the gap in the previous studies, the study has contributed on green apparel buying behavior.

The study implications can be divided into three different ways. Firstly, the study findings have shown the significance of attitude and physical product attributes for green apparel buying behavior. The marketers can utilize the consumers attitude to propagate the additional utility of green apparel and increase the value for consumer. Consumers may feel good about wearing green apparel by showing their social responsibility. The significance of the attitude can be used by the brands to know the buying behavior of consumers. In this study consumers have shown a positive attitude towards green apparel. Hence, can be influenced by the physical product attributes like style and design. Also, marketers and government can involve customers through various public participation drives and contests to generate consumer attitude and involvement, which will further result in the purchase intention of green apparel. Hence, marketers can target youth female consumers as more potential customers, also, the government can involve youth in the green consumption drive and strive for a sustainable future.

7. Limitations and future work

The study's limitations are that it is associated only Tier-II cities of Uttar Pradesh and applied convenience survey data. Future studies should focus on multiple cities to revalidate the current study's findings. A different research design applying qualitative analysis to the population could further re-examine the buying behavior of green apparel. While the actual behavior of individuals

could be considered for future reference. Also age, gender and purchase frequency can be used as the moderators to the study in future.

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